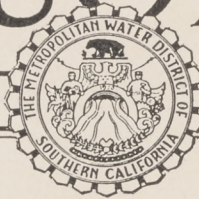


• COLORADO RIVER •

# AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT

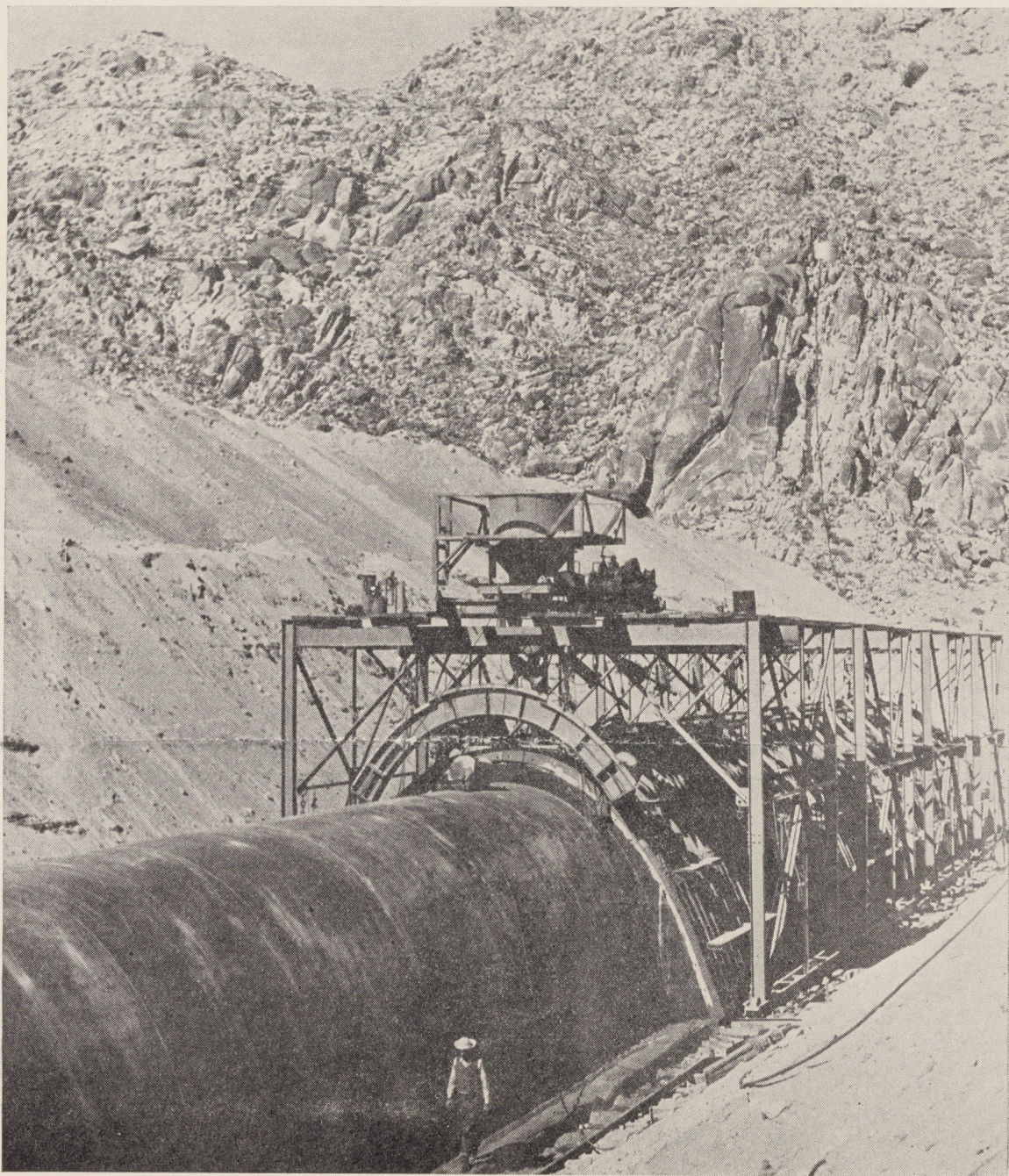


OF SOUTHERN CALIFORNIA

Vol. II

MARCH 20, 1935

No. 6



#### THE EVOLUTION OF AN AQUEDUCT CONDUIT

Compare this view of Thompson-Starrett conduit construction with the one on the cover of the last issue of the NEWS for a graphic demonstration of how rapidly the aqueduct is moving.



• COLORADO RIVER •  
**AQUEDUCT NEWS**  
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOS ANGELES, CALIFORNIA

*Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.*

Vol. II March 20, 1935 No. 6

### CONGRATULATIONS !

If Walter Winchell were writing this, he would say, "An orchid to you Mr. Bewley;"

Personally, we can't imagine William Bewley, veteran of twenty-five unbroken months on the aqueduct, being very much interested in an orchid—so we'll stick to the old fashioned way, and say "Congratulations, Bill!"

And we mean it! If ever congratulations were in order they are in the case of William Bewley of Thousand Palms, winner of the NEWS' contest to determine the holder of the longest unbroken service record on the aqueduct among construction forces.

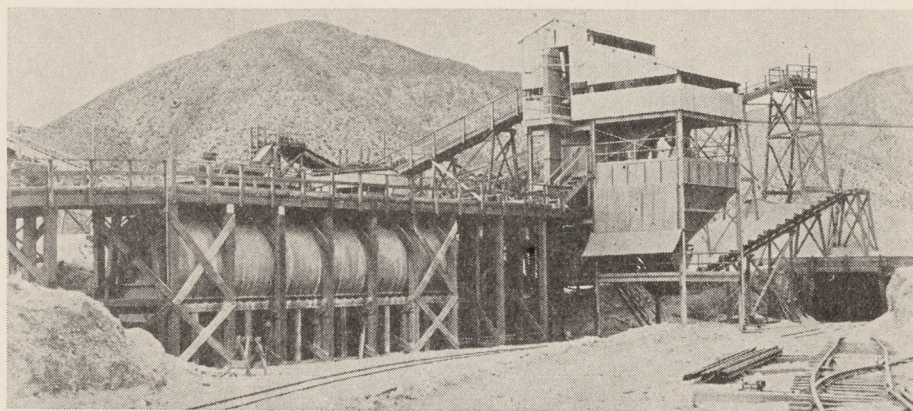
Bill went to work at Thousand Palms on January 16, 1933. When February 15, 1935, rolled around not only had he worked 25 months, but he had worked them without missing a single shift for any cause whatsoever. And he's still at the same old stand today, and still not missing any shifts.

Splendid as is his record, Mr. Bewley did not win at a walk by any means. In other columns of the NEWS will be found the names of nearly a dozen other aqueduct workers whose performance has lacked but a few days of equalling that of the champion.

Deserving of special mention (and condolences) is Agenor Giron of Fargo who, except for a close-down period at Fargo, might have won the prize. Rules are rules, however, and in this case they specifically required that records must not be interrupted for any cause whatsoever.

So, William Bewley is the winner. To him a bound copy of Volume 1 of the NEWS, a certificate signed by Chairman W. P. Whitsett and General Manager Weymouth, and the heartiest congratulations of everyone for a grand record.

To those kindly souls who pitied the editor in his travail, and sent in a goodly supply of items, he extends heartfelt thanks—and this fervent plea—keep it up!



Wide Canyon Aggregate Plant

## WIDE CONCRETING LAUNCHED

Concreting operations in Coachella Division tunnels were getting under way last week as District crews at Wide No. 2 tunnel completed the placing of concrete for the 17 feet of modified conduit on the west, 848 feet for the tunnel, and 23 feet of modified conduit on the east. A total of 3,127 cubic yards of concrete had been placed up to March 9, using a total of 4,408 barrels of cement, including 10 barrels in rejected batches.

At the Fargo Canyon gravel and concrete plant, a crew of eleven men is employed. The railroad grade is completed and approximately 60 per cent of the track has been laid. Excavation for the batching bins is approximately 60 per cent complete, the framing for the tunnel under the waste dump 20 per cent complete, and the office building 100 per cent complete.

## APPROVE HAULING CONTRACT

Approving a recommendation of General Manager F. E. Weymouth, the board of directors of the District has awarded a four-year contract to the Southern Pacific Company for the transportation of cement to various railheads and construction points along 120 miles of the Colorado River Aqueduct line.

The contract involves the hauling of cement for the aqueduct area between Coxcomb tunnel and the Potrero shaft.

The contract price was \$966,508, covering the transportation of 2,638,000 barrels of cement.

For aqueduct work east of Coxcomb, Santa Fe rates to railheads already have been accepted, and the board authorized that cement be hauled from railheads to the job by the construction contractors, except in one case where the calling for new bids was ordered.

## SAN JACINTO DECISION MADE

District forces were proceeding with San Jacinto tunnel construction work this week following action by United States District Judge William P. James on March 7 granting a motion of counsel for the District to dismiss an application for an injunction asked by the Wenzel & Hensch Construction Co.

The Wenzel and Hensch contract was suspended by the district on January 15th on the grounds that there was "unreasonable and unnecessary" delay in the work. Following suspension of the contract, the District proceeded with the job with its own forces.

## PARKER WORK MOVES AHEAD

Six Companies, Inc., through its subcontractor, the J. F. Shea Company, continued last week with excavation of the diversion tunnel outlet channel and portal cuts at Parker Dam. The channel cut has been leveled approximately

down to bridge grade. Waste rock is being used on the beginning of the road over the surface to the upper tunnel portals and gravel plant. Meanwhile, work on government camp construction is about 75 per cent complete.





Aqueduct old-timers—Top row: Roderick McLeod, Rudie Uppenkamp, William Bewley (center), Ben Nichols, and Joe Shaffer. Bottom row: Bennie Ross, Joe Aftuck, Agenor Giron, and Paul Murdock. Others who evaded the cameraman are J. W. Hildebrand, Ralph Snarr, A. C. Mathewson, and Ralph Crisswell.

## WILLIAM BEWLEY OF THOUSAND PALMS WINS AQUEDUCT SERVICE RECORD CONTEST; OTHERS CLOSE TO TITLE

Twenty-five months without missing a single shift!

Such is the record which entitles William Bewley, mucker at Thousand Palms Camp on the Coachella Division, to recognition as the holder of the longest record of uninterrupted service on Colorado River Aqueduct construction work.

The contest was open only to members of construction forces, engineers, superintendents and clerical workers being ineligible.

Award of the championship to Mr. Bewley was made following receipt of more than a dozen entries from all sections of the Aqueduct line. The winner will receive a bound copy of Volume 1 of the AQUEDUCT NEWS and a certificate signed by Chairman Whitsett and General Manager Weymouth.

Champion Bewley—whose home address is 5949 Rose Avenue, Long Beach—went to work at Thousand Palms on January 16, 1933, and in the 25 months which had elapsed up to February 15, 1935, had not missed a shift other than those granted for regular lay-offs.

A close competitor was Paul Murdock, motorman at Berdoo, who was employed on February 3, 1933, did not miss a shift in 24 months and 10 days of service.

Roderick W. McLeod went to work

at Thousand Palms on February 20, 1933, as a carpenter and timber framer. Though he was transferred to Wide Canyon Camp, he did not lose a shift in the process—nor has he lost one for any other reason.

Just three days later—on February 23, 1933, Rudie Uppenkamp was employed as a compressorman at Berdoo, giving him a record of 23 months and 21 days of uninterrupted service.

On April 18, 1933, Ralph Snarr took over his duties as chief electrician for Hamilton & Gleason on the Bernasconi tunnel—and hasn't missed a shift since.

Hoistman J. W. Hildebrand went to work for the Dravo Contracting Company on May 8, 1933, at Valverde tunnel, and has lost no shifts since that day.

J. F. Shea Company's candidate was A. C. Mathewson, who has been a machinist on the Cottonwood job since May 29, 1933, making a record of 20 months and 18 days without interruption.

Ben Nichols started to work with Winston Brothers at East Coxcomb tunnel on June 10, 1933, and has never missed a shift since.

Joe Shaffer has been employed by Winston Brothers on the same job since June 19, 1933. He has worked as a carpenter, timber framer, and miner.

The entry of L. E. Dixon-Bent Brothers, Inc., was Steel Sharpener Joseph

Aftuck, who started to work on July 6, 1933, the first day that Dixon & Bent opened up their Eagle Mountain camp.

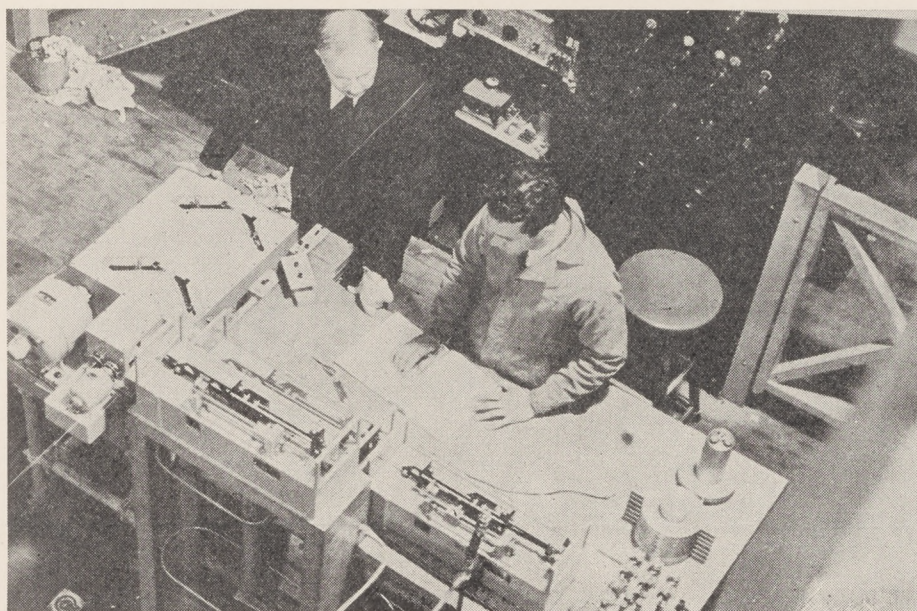
Bennie Ross, of Utah Construction Company's West Iron Mountain job, didn't win the prize, but he unquestionably holds some kind of record. He worked as an underground pipe man without losing a shift from August 31, 1933, to December 26, 1934—and during that time never left camp at any time during day or night and never missed a meal in the camp dining room.

Hunkin-Conkey Construction Company entered Ralph Crisswell, mucking machine operator, who started to work at Hayfield No. 1 on September 7, 1933, and has not missed a shift since.

Agenor Giron can blame the fates for not winning the prize. He went to work at Fargo as a powderman on January 14, 1933—which would give him a record of 25 months and 21 days. Unfortunately, however, Fargo closed down from August 30 to September 10, inclusive—thus ruining an otherwise perfect record.

Serious consideration was given to the Giron record, but a strict interpretation of the rules (no interruptions for any reason whatsoever) made it impossible for the judges to award him the prize.





Prof. R. L. Daugherty of Caltech and Ralph Watson of the District staff, at the control desk of the aqueduct pump laboratory.

## PROF. DAUGHERTY DESCRIBES DISTRICT PUMP LABORATORY

Wide interest among aqueduct engineers and technical men everywhere is being evidenced in a paper prepared recently by Professor R. L. Daugherty of California Institute of Technology on the Metropolitan Water District Pump Testing Laboratory located on the Caltech campus.

The design and operation of the laboratory is under the direction of Professor Daugherty, Professor Theodor von Karman, and Professor Robert T. Knapp of the Institute, and R. M. Peabody, senior mechanical engineer of the District, all associated with Chief Electrical Engineer J. M. Gaylord.

The purpose of the Caltech experiments is to increase the efficiency of pumps to a higher point than ever before attained, and, as a result, to lower aqueduct operating cost.

In estimating the cost of constructing and operating the aqueduct system, district engineers based their figures upon standard pumping equipment. Use of such standard equipment in all parts of the world have long since demonstrated that it is feasible and economical to lift water to the heights and in the quantities provided for on the Colorado River Aqueduct. The sole purpose of the Caltech tests is to increase these standard efficiencies to a point where a substantial saving will be effected by the district.

Presented herewith are excerpts from Professor Daugherty's paper, describing the purposes and equipment of the laboratory:

"Since it is estimated that with all the pumps in operation a variation of one per cent in their efficiency will cause a variation in the cost of electric energy of \$50,000 per year, it may be seen that it is necessary to endeavor to secure as high an efficiency as possible, and also to do as much as possible to maintain that efficiency for a long period of time. The attainment of a high efficiency depends not only upon the skill and experience of the designer and manufacturer but also upon the designer being given the optimum specifications for him to work under.

"Among the questions to which the engineers of the District desire answers before proceeding to formulate specifications are the following: (a) Should the pumps be single suction or double suction? (b) What is the maximum allowable head per stage, or in other words should a single-stage or two-stage pump be used for the higher head plants? (c) What should be the rotative speeds which should be used in each one of the five plants? The answer to this question affects the initial cost of the pumps and motors and also has a bearing upon the efficiency that can be attained. (d) What should be the minimum pressure

permitted at the entrance to the pump impellers? The answer to this question determines the depth of excavation necessary at each pumping plant in order to set the pumps at the proper depth. Too great a depth of setting means an unnecessary expense for excavation and building construction. Too high an elevation for the pumps means that cavitation will be produced. This tends to reduce the capacity of the pumps, to lower their efficiency, to produce vibration, to produce pitting which will rapidly wear out the pumps and thus cause frequent shut-downs for repairs and replacements of impellers, and in general produce operating difficulties. No matter how good the pumps themselves may be, unless they are set at the proper depth their performance will always be unsatisfactory. (e) What will be the behavior of the pumps when the power is suddenly shut off either by accident or otherwise? In such a case the water in the discharge line will tend not only to stop the pump but will operate it in the reverse direction as a turbine at run-away speed. (f) What control equipment will be necessary in the discharge line to bring the water to rest in the case of a pump shut-down without producing or permitting dangerous surges? The control equipment might in some cases be almost as costly as the pumping units themselves. (g) What is the efficiency that might be expected for these pumps? (h) Is it possible to make any changes in present designs so as to improve existing efficiencies?

"In order to assist the engineers of the District in this matter a hydraulic laboratory for this purpose was installed at the California Institute of Technology. The laboratory has already been completed and testing work is now actively under way."

*(To be Continued)*

## Safety On the Aqueduct

Indicating that they definitely mean business about safety, the Utah Construction Company, J. F. Shea Co., the Aqueduct Construction Co., Six Companies, Inc., and Wood & Bevanda, as well as the subcontractors, von der Helten & Pierson, Fredrickson & Watson and Anderson Bros. Supply Co., are holding regular monthly safety meetings, according to a report from Safety Engineer N. A. Jarrett.



## MONTH'S AQUEDUCT WORK REVIEWED BY GENERAL MANAGER

(EDITOR'S NOTES *The following is a brief summary of some of the District activities as set forth in the monthly report of General Manager and Chief Engineer Weymouth, filed with the Board of Directors in March, covering the work during February.*)

### Legal Division

In addition to other legal work in connection with the aqueduct, all necessary documents to secure payment of Interim Certificate No. 20 in the principal sum of \$2,016,000 were prepared, and payment of the certificate was made on February 20.

### Miscellaneous Activities Division

During the month of February the labor employment office issued Certificates of Registration to 812 employment applicants. Up to February 28, a total of 8,175 such certificates had been issued by the employment office.

### Field Engineering and Construction

**Engineering**—In addition to regular work, diamond drill borings were made on the site of the Hayfield pump lift to furnish additional data for the pump lift structures.

**Testing Laboratory**—Three courses of instruction for concrete inspectors were given during the month. Up to this

time 50 men had been given this instruction.

**Operation of Utilities**—During February a total of 6,001,543 kw-hours of power was used; about 16,196 (long distance) telephone calls were handled, and 1,932,620 cubic feet of water delivered.

**Parker Dam—Bureau of Reclamation**—Six Companies resumed construction work on February 14, and completed the access road to the lower portals of the diversion tunnels. The excavation of the lower outlet channels was begun.

**Aqueduct Construction**—(See tunnel progress table on Page 6 for current progress figures.)

### Civil Engineering Division

**Specifications**—Five sets of specifications were issued during the month; bids were opened and analyzed under six previously issued specifications; five contracts were prepared, checked, and executed.

**Design**—A second series of tests on the siphon transition model at Sawtelle reservoir was undertaken and the bulkheads at the Fan Hill conduit were recaulked preparatory to further tests on the structure.

**Distribution**—Construction work on the Pasadena and Monrovia tunnels was launched during the month.

### Electrical Engineering Division

The structural designing section completed its work on the transmission line during the month and took up the design of the pumping plant foundations. Work was continued on the connecting structures between the aqueduct and the pumping plants. Several designs and estimates of costs were prepared for cottages to be used by the permanent operating organization on the 230 kv transmission line and at the main pumping plants. It is expected that a number of these cottages will be used by the District's engineers during the construction period.

### Personnel Division

The net labor turnover for all divisions for January reached a new low point of 4.07 per cent. The net turnover for classified positions was .93 per cent and for unclassified positions 6.31 per cent.

### Purchasing Division

Purchase orders issued during the month of February amounted to approximately \$275,676.82, representing an issuance of 1,377 orders.

### Accounting and Costkeeping

Actual costs to February 28 amounted to \$35,619,559.55, covering portions of works and activities, the total cost of which is estimated at \$110,299,543.

## DIRECTORY

### BOARD OF DIRECTORS

W. P. Whitsett, Chairman  
Franklin Thomas, Vice-Chairman  
S. H. Finley, Secretary

Anaheim.....O. E. Steward  
Beverly Hills.....George R. Barker  
Burbank.....J. L. Norwood  
Compton.....William H. Foster  
Fullerton.....Walter Humphreys  
Glendale.....Bernard Brennan  
Long Beach.....William M. Cook  
Los Angeles.....I. Elsner  
Los Angeles.....Perry H. Greer  
Los Angeles.....Otto J. Emme  
Los Angeles.....D. W. Pontius  
Los Angeles.....John R. Richards  
Los Angeles.....Victor H. Rossetti  
Los Angeles.....W. P. Whitsett  
Pasadena.....Franklin Thomas  
San Marino.....J. H. Ramboz  
Santa Ana.....S. H. Finley  
Santa Monica.....W. H. Carter  
Torrance.....Charles T. Rippey  
Charles H. Toll, Treasurer  
D. W. Pontius, Controller

### GENERAL STAFF

General Mgr. and Chief Engr.....F. E. Weymouth  
Asst. General Manager.....J. L. Burkholder  
Asst. Chief Engineer.....Julian Hinds  
General Counsel.....James H. Howard  
Asst. General Counsel.....Arthur A. Weber  
Asst. Controller.....J. M. Luney  
General Superintendent.....James Munn  
Chief Elec. Engineer.....J. M. Gaylord  
Asst. to Gen. Mgr.....Don J. Kinsey  
Secy. to Gen. Mgr.....Elisabeth von Hagen

### DIVISION ENGINEERS

Division 1.....R. C. Booth  
Division 2.....W. E. Whittier  
Division 3.....John Stearns  
Division 4.....B. C. Leadbetter  
Divisions 5 and 6.....J. B. Bond  
Distribution.....R. B. Diemer

### SUPERINTENDENTS

#### (Tunnel)

Colorado River, Copper Basin and Whipple Mt. Tunnels, Walsh Construction Co., F. T. Huntington, Gen. Supt.; W. A. Huntington and Jack Lamey, Tunnel Supts.

Coxcomb Tunnel and Iron Mt. shaft, Winston Bros., E. A. Bernard, Gen. Supt.; F. T. Hillman and R. B. Johnson, Tunnel Supts.

Iron Mt. Tunnel, West Portal, Utah Constr. Co., Ben Arp, Gen. Supt.

East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon, C. J. Kavanagh, Gen. Supt.

West Eagle Mt. Tunnel, west portion, L. E. Dixon and Bent Bros., P. C. Guinn, Gen. Supt.

Hayfield Tunnel No. 1, Hunkin & Conkey Constr. Co., G. B. Hoag, Gen. Supt.; F. Backlund, Tunnel Supt.

Hayfield Tunnel No. 2, Shofner & Gordon, H. E. Warden, Gen. Supt.

Cottonwood Tunnel, J. F. Shea Co., Inc., Gilbert Shea, Gen. Mgr.; Wallace Young, Master Mechanic.

Mecca Pass Tunnels, Morrison-Knudsen—Completed.

Coachella Division, R. M. Merriman, Division Supt.

Yellow Canyon Adit, E. Coachella Tunnel—

District Force Account.....R. L. Bryant

Fargo Adit, East Coachella Tunnel—

District Force Account.....J. H. Manwaring

Berdoo Adit, East Coachella Tunnel—

District Force Account.....F. A. Weller

Pushawalla Adit, East Coachella Tunnel—

District Force Account.....Kenneth MacIsaac

Thousand Palms—

District Force Account.....D. L. Reaburn

Wide Canyon—

District Force Account.....John Jackman

Long Canyon—

District Force Account.....C. E. Sides

Little Morongo—

District Force Account.....

Whitewater Tunnels, West Constr. Co., H. E. Carleton, Gen. Supt.; Angus MacDonnell, Tunnel Supt.

San Jacinto Tunnel, District Force Account, C. R. Rankin, Gen. Supt.; E. E. McCabe, W. L. Taylor, and Jack Stone, Tunnel Supts.

Bernasconi Tunnel, Hamilton & Gleason Co., Alex Simpson, Tunnel Supt., H. F. Stocker, Concrete Supt.

Valverde Tunnel, Dravo Contr. Co., R. W. Remp, Gen. Supt.; H. C. Richardson, Asst. Gen. Supt.; Fred Youmans, Tunnel Supt.; John Will, Concrete Supt.

### SUPERINTENDENTS

#### (Canal, Siphon, Conduit)

Schedules Nos. 5 and 5A, Jahn & Bressi Construction Company, Joseph Muscolo, Gen. Supt.; Dominick Bressi, Asst. Gen. Supt.; C. M. Ellison, Concrete Supt.

Schedules Nos. 7 and 7A, Barrett & Hilp & Macco Corporation, Jesse S. Smith, Gen. Supt.; H. W. McKinley, Excav. Supt.; Robt. McCune, Concrete Supt.

Schedules Nos. 6, 8, 8A and 8B, Clyde W. Wood and M. J. Bevanda, A. F. Weesner, Gen. Supt.; L. L. Green, Excav. Supt.; A. V. Fisher and V. S. Price, Concrete Supts.

Schedules Nos. 9, 9A, 9B, and 9C, The Utah Construction Company, Ben Arp, Gen. Supt.; E. C. Caldwell, Excav. Supt.

Schedules Nos. 10, 10A and 10B, Aqueduct Construction Company, C. M. Elliott, Gen. Supt.; Charles Harlowe, Jr., Excav. Supt.

Schedules Nos. 12 and 12A, Three Companies, Inc., Charles G. Clapp, Supt.

Schedules Nos. 14, 15 and 16, Thompson-Starrett Co., Inc., William Hayes, Gen. Supt.; Thomas McIlvenna and Joseph Rice, Field Supts.; Rodney Smith, resident engineer.

Schedule 18-J, Morrison-Knudsen, George Fortier, Gen. Supt.

Schedule No. 20, J. F. Shea Co., Inc., H. F. Remnerbohm, Supt.

Schedules Nos. 21 and 23, The Griffith Company, Harry Davis, Supt.



**BEST PROGRESS****This Period**

6-day week: Fargo Canyon West, 763 ft.  
7-day week: Whipple Mt. East, 753 ft.

**TUNNEL PROGRESS**

Feb. 16 to March 15, 1935  
Tunnel Excavated to Date, 64.74 Miles

**BEST WEEK'S PROGRESS****This Year**

6-day week: Seven Palms West, 225 ft.  
7-day week: Whipple Mt. East, 244 ft.

TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET		
			Average Per Shift	This Period	Total to date
Walsh Constr. Co. COLORADO RIVER West Portal	(5482) 5482			0	5482
COPPER BASIN, No. 1 West Portal	(705) 705			0	705
COPPER BASIN, No. 2 East from adit	(11,568) 1878			0	1878
Adit	330			0	330
West from adit	9690			0	9690
WHIPPLE MT. East from adit	(32,265) 18,352	84	9.0	753	10,570
Adit	924			0	924
West from adit	13,913	82	7.8	628	8,776
Winston Bros. IRON MT. East from shaft	(39,759) 9844	84	6.4	536	5275
Shaft	165			0	165
West from shaft	13,743	84	7.7	648	9693
Utah Constr. Co. IRON MT. West Portal	16,172	84	7.3	613	12,461
Winston Bros. COXCOMB East Portal	(17,795) 17,795	72	9.8	707	11,018
Broderick & Gordon EAST EAGLE MT. West Portal	(9,442) 9442	48	7.3	348	3920
WEST EAGLE MT. East from adit	(26,494) 7871	48	9.9	474	6295
Adit	2008			0	2008
West from adit	7974	48	8.7	416	5604
Dixon & Bent WEST EAGLE MT. West Portal	10,649	69	5.9	410	9104
Hunkin & Conkey HAYFIELD, No. 1 East from adit	(9,733) 5,337	69	5.2	362	5337
Adit	511			0	511
West from adit	4396			0	4396
Shofner & Gordon HAYFIELD, No. 2 West Portal	(5435) 5435			0	5435
J. F. Shea Co. COTTONWOOD East Portal	(20,105) 10,118				
West Portal	9987				
Morrison-Knudsen MECCA PASS TUNNELS	(5,940)				
West Constr. Co. WHITEWATER No. 1, West Portal	(10,232) 2060				
No. 2, East Portal	8172				
Hamilton & Gleason BERNASCONI East Portal	(6220) 6220	31	4.4	136	6220
Dravo Contr. Co. VALVERDE East from Shaft 1	(38,765) 2140				
Shaft 1	64				
West from Shaft 1	1525				
East from Shaft 2	5400				
Shaft 2	204				
West from Shaft 2	5400	78	6.2	480	4660
East from Shaft 3	6950				
Shaft 3	192				
West from Shaft 3	6950	72	4.4	315	3965
East from Adit	5117				
Adit	391				
West from Adit	5283	78	3.2	249	192
West Constr. Co. MONROVIA TUNNELS* No. 1, West Portal	(40,919) 7865				
No. 2, West Portal	940				
No. 3, East from Adit	11,340				
Fish Canyon Adit	1616				
No. 3, West from Adit	10,000				
No. 3, West Portal	10,774				
Dixon, Bent & Johnson PASADENA TUNNEL* West Portal	(12,143) 12,143	65	9.1	589	589
Total Excav. Contract Tunnels exclusive of Adits and Shafts (In Miles)	293,002 55.49	1252	6.4	8022 1.52	187,490 35.51
TUNNELS ON FORCE ACCOUNT					
EAST COACHELLA TUNNEL Yellow Canyon Adit	Sched. (96,605) 686			0	686
East from adit	1			0	10,204
West from adit	1	71	5.5	391	11,368
Fargo Canyon Adit	891			0	891
East from adit	2	74	8.8	648	10,339
West from adit	2	72	10.6	763	8916
Berdoo Canyon Adit	2042			0	2042
East from adit	3	72	7.9	571	11,123
West from adit	3	72	8.7	623	11,734
Pushawalla Canyon Adit	2935			0	2935
East from adit	4	74	5.8	432	9240
West from adit	4	72	7.3	528	8960
WEST COACHELLA TUNNELS	(81,454)				
THOUSAND PALMS No. 1, West Portal	5	72	6.6	474	9398
No. 2, Tunnel	5			0	3838
WIDE CANYON No. 1, E. Portal	Sched. 5	72	8.4	607	5671
No. 1, W. Portal	6	45	6.5	294	8531
No. 2 Tunnel	848				848
SEVEN PALMS E. Portal	(16,730) 8390			0	4810
W. Portal	7	72	5.6	403	7306
LONG CANYON E. Portal	(15,295) 8360	7			
W. Portal	8	72	9.3	667	7323
BLIND CANYON E. Portal	(6848) —				0
W. Portal	8			0	5580
MORONGO No. 1 E. Portal	(5712) 5712			0	5364
W. Portal	8				0
MORONGO No. 2 E. Portal	(1820) 1820				0
W. Portal	8				0
SAN JACINTO East from Cabazon	(67,415) 8553	84	1.9	162	1983
Cabazon shaft	246			0	246
Cross drift	935			0	935
West from Cabazon	22,839	84	0.6	48	4922
East from Potrero	20,589	83	0	0	160
Potrero shaft	796			0	796
West from Potrero	6712	84	3.2	272	1455
West Portal	8722	84	6.4	538	5249
Total excav. Force Acct. Tunnels excl. of Adits and Shafts (In Miles)	245,474 46.49	1259	5.9	7421 1.41	154,322 29.23
Total Tunnel Excavation (Miles)	101.98		6.2 ft.	2.93	64.74

\*Distribution System Tunnels—Diameter 10 ft., Total length 10.05 miles. Adits and Shafts not included in total footage.



# NEWS FROM FIELD AND OFFICE

With considerable difficulty and apprehension a NEWS operative finally navigated the subterranean passages in the Banning building, which the District's chief "bulb-squeezer," Will Fox, has erroneously termed his studio, and ran down the rumor that he has acquired an assistant. It is true, and the new man is J. S. Irvin. He rocks the trays while Will is away.

\* \* \*

The Banning telephone department has employed J. J. Murphy as the new night operator and has transferred H. T. Swango from Berdoo to take the place of James Kettner. Jim is still working for Bud Weaver, but has been put on substation work.

\* \* \*

A bit of Winchellian flavor. And as Ben Bernie's friend might say, "What rising young engineer and airplane pilot and poor working gal middle-aided it on March 3rd, last?" None other than Mr. J. Laurence Seright and Miss Ann Braheme, both of the M. W. D. field forces. Just recently Larry accepted a position in the Shell Oil Company's Geological office in Ventura and the newlyweds have moved to that city.

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R. J. Spencer of the Coachella Field forces has been transferred to the Banning clerical staff to fill the space left by the former Miss Braheme, now Mrs. Seright.

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Making another addition to the forces in Banning is the employment of Miss Edith Clegg in the Compensation Claims Division. Miss Clegg formerly worked in the Wenzel & Henoch offices in Beaumont, California.

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The last issue of the AQUEDUCT NEWS carried the announcement of the engagement of Miss Helen Belattie and Norman E. Humphrey of the Division No. 4 Engineers. Before the NEWS had gone to press this item was incorrect as the couple had slipped away to Yuma and were married on March 2. They will be at home at Indio to their friends during the Easter vacation. Norman certainly has been a busy man for several months. He not only has found time to attend to his engineering duties but has acquired an alfalfa ranch near El Centro as well as a new boss.

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H. A. Campbell is another member of the Division 4 engineering staff who has been transferred to the Distribution Division.

**Flying during the month of March for the best camp records for safety, progress, and economy on the Coachella Division for February are:**

**Safety Flag—Fargo.  
Progress Flag—Fargo.  
Economy Flag—Fargo.**

Congratulations of many District friends are extended to Sterling Beckwith who has resigned his post in the Electrical Division to accept the position of designing engineer in the Milwaukee office of the Allis-Chalmers Company where he will work on the design of large electrical machinery. Mr. and Mrs. Beckwith and their two children already have departed for the East. Before leaving Sterling issued a formal statement categorically denying intimations that the quality of Milwaukee beer had anything to do with his decision to reside in that city.

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At last the ladies have done it! Having reached the place where they absolutely could not stand for another minute the unrelieved monotony of listening to their menfolks talking about tunnels, canals, siphons, power lines, reinforcing steel, concrete, etc., etc., etc., a large percentage of the feminine population of Division 2 and 3 have organized in self defense. They have formed the Ocatilli Club at the meetings of which they will discuss gardening as a blessed relief. At the club's first meeting, held at the M. M. Lehman home at Granite substation, the following ladies were present: Mrs. D. C. Walker and Mrs. Allison B. Polley, Division 3; Mrs. E. A. Russell and Mrs. Walter Stone, Hayfield substation; Mrs. W. E. Whittier, Mrs. D. C. May, and Mrs. Fred Doolittle, Division 2; Mrs. J. A. Rieder and Mrs. M. M. Lehman, Granite substation.

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Arnold Jagow, Division 2 turtle-tamer, is gaining the confidence of his hay-burning crustacean by a diet of lettuce. Arnold heard that turtles are cold-blooded, and by the time he's trained the pet not to hiss, he figures it'll be hot enough to use him at nights as a bed-cooler.

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V. P. Pentegoff has been transferred from the engineering staff at Division 4 headquarters to the Pasadena tunnel job in the Distribution Division.

Byron Hill, former Registrar and Professor at Banning Tech (L. H. Tut-hill's Concrete Lab to youse lugs) is now keeping an eye on concreting operations in Divisions 1, 2 and 3. Byron and Mrs. Hill look forward to joining the trailer colony at Division 2 Headquarters Camp.

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Because the work was unsigned, the NEWS gave no credit to the artist who drew the cartoon of Dick Taylor which appeared in the last issue. From Division Engineer Leadbetter, it has since been learned that the picture was the work of the gifted pen of Glenn C. Wright, of the Division 4 engineering staff.

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Division 2 announces the promotion of Concrete Plant Inspector Carl Connable, Arnold W. Jagow and John D. Mendenhall, formerly General Clerk and Instrumentmen respectively. Recent additions to the personnel include George Wood, General Clerk, and Joseph Kincannon, Bunk House Flunky.

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Two new master mechanics at the West portal of San Jacinto are J. G. Brown, formerly of the Operating Department, and J. E. Brown, formerly of the Wide Canyon Aggregate plant.

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Rating changes on Division 6 were reported as follows: F. A. Loucks, junior engineer to earth work inspector; E. L. Cranford, instrumentman to concrete inspector; B. H. Davis, chainman to excavation inspector; T. J. Cain, chainman to instrumentman; E. L. Kanouse, field clerk to junior draftsman; K. H. Swart, chainman to junior engineer.

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Changes in rating on Division 3 this month affected the following: Alton Harrison, instrumentman to concrete inspector; R. L. Taunton, instrumentman to concrete inspector; Countland Munn, instrumentman to concrete inspector; L. B. Behlow, chainman to instrumentman.

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A new three-by-nine-foot road sign should head off many a needless trip to Rice by those looking for Division 2 Headquarters at East Iron Mountain. The crossing of Freda Siphon and the M. W. D. highway is to be similarly indicated.

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Chainman I. S. Reid has received an inspector's rating on Division 5.





Standing, left to right: F. S. Laird, construction superintendent; N. T. Johnson, field clerk; A. O. Dahlke, general clerk; Richard A. Chance, M. D., physician; W. P. Bowby, general clerk junior; N. I. Berg, chief clerk; W. D. Sheffey, storekeeper. Seated, left to right: J. E. Edwards, general clerk; A. E. McKenzie, general clerk; Miss Edna Anderson, stenographer; C. R. Rankin, general superintendent; Miss J. M. Hoge, secretary to Mr. Rankin; E. E. Stewart, junior clerk.

## San Jacinto Tunnel Office Force Organized

Among the new visages now being seen around the Banning Field office on the San Jacinto tunnel work is that of C. R. Rankin, general superintendent. Mr. Rankin was for several years construction engineer for the Hetch-Hetchy project Coast Range tunnel. N. I. Berg, formerly a familiar figure around the L. A. office, is the chief clerk for the new force account work.

A. E. McKenzie is now the general clerk for the new clerical force. "Mac" was formerly chief timekeeper at Berdoo Headquarters Camp. W. D. Sheffey, who was the storekeeper at the Indio Warehouse, is also located in Banning trying to keep track of all the nuts and bolts. His charming assistant is Miss Edna Anderson, who was transferred from the Los Angeles office. E. E. Stewart, who was also working in L. A., has been moved to Banning.

Other transfers which have not been reported before are: N. T. Johnson, night telephone operator to field clerk; A. O. Dahlke from Berdoo Headquarters to Banning; W. P. Bowby from Long Canyon to Banning; Joe Edwards from the Indio Warehouse.

The new additions have been made to the District San Jacinto forces in the persons of Miss J. M. Hoge, who is secretary to Mr. Rankin and Richard A. Chance, M. D., who for the present is located in the Banning Field Headquarters building. Farrel Boyd, who was

formerly the timekeeper in the Banning office, is once again back on the District payrolls as Camp Clerk at Cabazon. The same is true of Miss Pat Murdick, who has been reemployed in the office of J. B. Bond.

E. A. Newton, Mox Stark, V. J. Collore, Jr., D. E. Garrison, T. S. Furlong, Art Killen, D. E. Prince, H. Haymes and J. G. Brown have all been transferred to the San Jacinto rolls.

## Excavation Work At Bernasconi Completed

Hamilton & Gleason crews reached the end of the trail on Bernasconi tunnel at 11 A. M. on March 3, when excavation of 6,220 feet of tunnel had been completed.

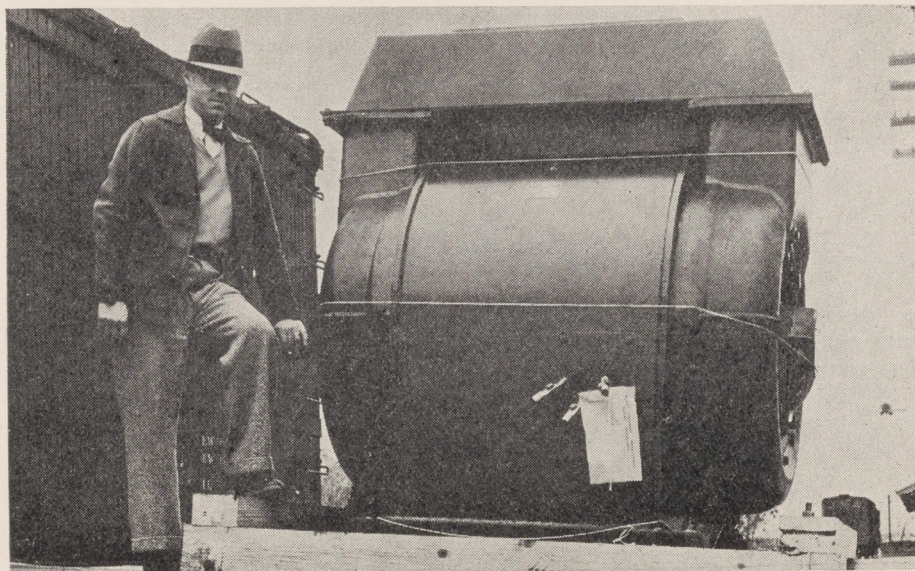
The four by four foot ventilation shaft from the surface at the west end of the tunnel was completed on March 7, and the trimming of rock to "A" line was started from the East portal.

## Walsh to Concrete

Arrangements have been practically completed for a concrete plant to serve the tunnel lining operations of the Walsh Construction Company. Walsh crews have finished the trimming of walls and arch in the Colorado tunnel, and final clean-up for the wall footings has been started. T. J. Martin of the Walsh organization has been transferred to Copper Basin camp to take charge of tunnel lining and all concreting.

## Patrol Road Begun

Bennet & Taylor crews are well under way with the construction of the Whipple Mountain Patrol Road, a \$79,476 contract for which was awarded last month. The contractor started rough grading at the southerly end of the work, and has advanced approximately two miles, moving approximately 3,000 cubic yards.



One of the force draft ventilated motors used in the underground pumping station at Potrero shaft, San Jacinto tunnel. B. H. Martin of the Electrical Division is chaperoning the equipment as it leaves the box car.